

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Currently amended) A method for producing an antibody fragment, comprising the steps of:

1) preparing an expression vector comprising a gene encoding a light chain of the antibody fragment fused with *E. coli* thermostable enterotoxin signal sequence derivative and a gene encoding a heavy chain of the antibody fragment fused with *E. coli* outer membrane protein A signal sequence, wherein the expression of the genes encoding the light chain and the heavy chain is regulated by a single promoter;

2) transforming a microorganism with the expression vector;

3) culturing the transformed microorganism in a medium; and

4) collecting the antibody fragment ~~secreted from the transformed microorganism~~
into the medium or from the microorganism.

2. (Original) The method of claim 1, wherein the antibody fragment is derived from a chimeric antibody, a humanized antibody or a human antibody.

3. (Original) The method of claim 1, wherein the antibody fragment is selected from the group consisting of Fab, Fab', F(ab')₂ and scFv.

4. (Previously presented) The method of claim 1, wherein the *E. coli* thermostable enterotoxin signal sequence derivative has the nucleotide sequence of SEQ ID NO: 17 and the *E. coli* outer membrane protein A signal sequence has the nucleotide sequence of SEQ ID NO: 23.

5. (Previously presented) The method of claim 1, wherein the promoter is T7 promoter or Tac promoter.

6. (Currently amended) The method of claim 1, wherein the antibody fragment is a fragment of anti-tumor necrosis factor-alpha antibody.

7. (Previously presented) The method of claim 1, wherein the expression vector is pmsoDLHF_N/S.

8. (Previously presented) The method of claim 1, wherein the microorganism is *E. coli*.

9. (Previously presented) The method of claim 8, wherein the microorganism transformed with the expression vector is *E. coli* BL21/pmsoDLHF_N/S(HM10924) (KCCM-10513).

10. (Currently amended) An expression vector comprising a gene encoding a light chain of the antibody fragment fused with *E. coli* thermostable enterotoxin signal sequence derivative and a gene encoding a heavy chain of the antibody fragment fused with *E. coli* outer

membrane protein A signal sequence, wherein the expression of the genes encoding the light chain and the heavy chain is regulated by a single ~~promote~~promoter, and the antibody fragment expressed from the expression vector is secreted into a culture medium where a host carrying the expression vector is cultured or into a periplasmic space of the host.

11. (Previously presented) The expression vector of claim 10, wherein the antibody fragment is derived from a chimeric antibody, a humanized antibody or a human antibody.

12. (Previously presented) The expression vector of claim 10, wherein the antibody fragment is selected from the group consisting of Fab, Fab', F(ab')₂ and scFv.

13. (currently amended): The expression vector of claim 10, wherein the *E. coli* thermostable ~~enterotoxigen~~enterotoxin signal sequence derivative has the nucleotide sequence of SEQ ID NO: 17 and the *E. coli* outer membrane protein A signal sequence has the nucleotide sequence of SEQ ID NO: 23.

14. (Currently amended) The expression vector of claim 10, wherein the antibody fragment is a fragment of anti-tumor necrosis factor-alpha antibody.

15. (Previously presented) The expression vector of claim 10, wherein the promoter is T7 promoter or Tac promoter.

16. (Previously presented) The expression vector of claim 15, which is
pmsoDLHF_N/S.

17. (Previously presented) A microorganism transformed with the expression vector
of claim 10.

18. (Previously presented) The microorganism of claim 17, which is *E. coli*.

19. (Previously presented) The microorganism of claim 18, which is *E. coli*
BL21/pmsoDLHF_N/S(HM10924) (KCCM-10513).

Claims 20-43 (Cancelled)

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